

CLAIMS

WE CLAIM:

1. An inoculum for application to plants, said inoculum comprising a carrier and an effective quantity of bacteria, the bacteria selected from *Herbaspirillum seropedicae* 2A (ATCC No. PTA-2742), *Pantoea agglomerans* P101 (ATCC No. PTA 2744), *Pantoea agglomerans* P102 (ATCC No. PTA 2740), *Klebsiella pneumoniae* 342 (ATCC No. PTA-2743), *Klebsiella pneumoniae* zmvsvy (ATCC No. PTA-2741), *Herbaspirillum seropedicae* Z152 (ATCC No. 35894), *Gluconacetobacter diazotrophicus* PA15 (ATCC No. 49037) and mutant strains derived therefrom, said mutant strains able to enhance the growth of plants.
2. An inoculum for application to plants, the inoculum comprising a carrier and an effective quantity of a *Klebsiella pneumoniae* bacterial strain.
3. An inoculum for application to plants other than legume plants, the inoculum comprising a carrier and an effective quantity of a *Pantoea agglomerans* bacterial strain.
4. A biologically pure bacterial culture wherein the bacteria is selected from *Herbaspirillum seropedicae* 2A (ATCC No. PTA-2742), *Pantoea agglomerans* P101 (ATCC No. PTA 2744), *Pantoea agglomerans* P102 (ATCC No. PTA 2740), *Klebsiella pneumoniae* 342 (ATCC No. PTA-2743), and *Klebsiella pneumoniae* zmvsvy (ATCC No. PTA-2741).
5. A biologically pure culture of a mutant strain, the mutant strain derived from either *Herbaspirillum seropedicae* 2A (ATCC No. PTA-2742), *Pantoea agglomerans* P101 (ATCC No. PTA 2744), *Pantoea agglomerans* P102 (ATCC No. PTA 2740), *Klebsiella pneumoniae* 342 (ATCC No. PTA-2743), or *Klebsiella pneumoniae* zmvsvy (ATCC No. PTA-2741), wherein the mutant strain retains the ability to enhance the growth of plants.
6. A method for enhancing the growth of a plant, the method comprising the step of placing in the vicinity of the plant an effective quantity of bacteria, the bacteria selected from *Herbaspirillum seropedicae* 2A (ATCC No. PTA-2742), *Pantoea agglomerans* P101 (ATCC No. PTA 2744), *Pantoea agglomerans* P102 (ATCC No. PTA 2740), *Klebsiella pneumoniae* 342 (ATCC No. PTA-2743), *Klebsiella pneumoniae* zmvsvy (ATCC No. PTA-2741), *Herbaspirillum seropedicae* Z152 (ATCC No. 35894), *Gluconacetobacter diazotrophicus* PA15 (ATCC No. 49037) and mutant strains derived therefrom, said mutant strains able to enhance the growth of plants.

15. A method for enhancing the growth of a cereal grass plant, said method comprising the steps of placing in the vicinity of the plant an effective quantity of bacteria wherein the bacteria is identified to enhance the growth of a cereal grass plant according to the method of Claim 13.

16. A seed from a cereal grass plant coated with an effective quantity of the bacteria identified according to the method of Claim 13.

17. The seed of Claim 16 wherein the coating also includes a carrier for the bacteria.

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